

REMARKS

The Examiner's Office Action of October 31, 2002 has been received and its contents reviewed. Applicants would like to thank the Examiner for the consideration given to the above-identified application.

Claims 1-17 were pending prior to this amendment for consideration, as claims 1-9 have been withdrawn by the Election filed July 17, 2002. By this Amendment claim 10 has been amended, claim 11 has been cancelled, and a new claim 18 has been added. Accordingly, claims 10, and 12-18 are pending for consideration in the present application, of which claims 10 and 18 are independent. In view of the actions above and the remarks below, reconsideration and allowance of the pending claims are respectfully requested.

Referring now to the detailed Office Action, claims 10-17 stand rejected under 35 U.S.C. §112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Particularly, the Examiner is unclear of the relationship between the first and second semiconductor regions. In response, Applicant has amended claim 10, as suggested by the Examiner. As amended, claim 10 includes the features of canceled claim 11.

Claims 10-17 stand rejected under 35 U.S.C. §102(b) as anticipated by Treat et al. (U.S. Patent No. 5,412,678 – hereafter Treat). This rejection is respectfully traversed at least for the reasons provided below.

According to the amended claim 10 of the present invention, the first semiconductor laser structure is formed in the first region on the compound semiconductor substrate, and is provided on the etching control layer having a composition different from the composition of the compound semiconductor substrate. Further, the second semiconductor laser structure is formed in the second region on the compound semiconductor substrate, and no part of the etching control layer exists between the compound semiconductor substrate and the second

semiconductor laser structure. Hence, during the forming of the first semiconductor laser structure, since after the first etching is stopped by the etching control layer, the second etching can be used to remove the etching control layer provided in the second region, and the flatness of the second region in the compound semiconductor substrate can be maintained. As a result, the property of the second semiconductor laser structure formed in the second region of the compound semiconductor substrate is improved.

Applicant respectfully submits that Treat fails to disclose that the first semiconductor laser structure is formed in the first region on the compound semiconductor substrate, and is provided on the etching control layer having a composition different from the composition of the compound semiconductor substrate. Further, Treat also fails to disclose that the second semiconductor laser structure is formed in the second region on the compound semiconductor substrate, and that no part of the etching control layer exists between the compound semiconductor substrate and the second semiconductor laser structure as recited in amended claim 10.

Further, Treat merely teaches forming a common cladding layer on a compound semiconductor substrate, and thereafter forming a first semiconductor laser structure on a first region of the common cladding layer and a second semiconductor laser structure on a second region of the common cladding layer.

Consequently, since each and every feature of the present claims is not taught (and is not inherent) in the teachings of Treat, as is required by MPEP Chapter 2131 in order to establish anticipation, the rejection of claims 10-17, under 35 U.S.C. § 102(b), as anticipated by Treat would be improper.

New claim 18 recites a buffer layer formed on a compound semiconductor substrate; an etching control layer formed on the buffer layer and has a composition different from a composition of the substrate; a first semiconductor laser structure, which is defined in a first region on the etching control layer and which is made up of multiple semiconductor layers including a first active layer with a composition different from that of the etching control layer;

and a second semiconductor laser structure, which is defined in a second region on the etching control layer and which is made up of multiple semiconductor layers including a second active layer.

According to new claim 18, since the buffer layer is provided between the compound semiconductor substrate and the etching control layer, the crystallinity of the etching control layer is improved. As a result, during the forming of the first semiconductor laser structure by etching, since damage caused to the etching control layer is decreased, the property of the second semiconductor laser structure formed in the second region on the etching control layer is improved.

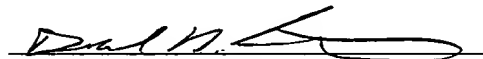
On the other hand, Treat merely teaches the cladding layer formed on the compound semiconductor substrate, which appears to correspond to the first n-type cladding layer 14A and the second n-type cladding layer 17A of the present invention. Applicant respectfully asserts that Treat fails to disclose the buffer layer formed on the compound semiconductor substrate or the etching control layer formed on the buffer layer recited in new claim 18.

In view of the amendments and arguments set forth above, Applicant respectfully requests reconsideration and withdrawal of all the pending rejections.

Having responded to all rejections set forth in the outstanding Office Action, it is submitted that claims 10, and 12-17, and 6 and new claim 18 are now in condition for allowance. An early and favorable Notice of Allowance is respectfully solicited. In the event that the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance

of one or more of the above claims, the Examiner is courteously requested to contact Applicant's undersigned representative.

Respectfully submitted,



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MARKED UP VERSION

Please amend claim 10 as follows:

10. (Amended) A semiconductor laser device comprising:
- an etching control layer, which is formed on a first region of a compound semiconductor substrate and has a composition different from [that] a composition of the substrate;
 - a first semiconductor laser structure, which is defined over the etching control layer and which is made up of multiple semiconductor layers including a first active layer with a composition different from that of the etching control layer; and
 - a second semiconductor laser structure, which is defined on a second region of the substrate and which is made up of multiple semiconductor layers including a second active layer,
wherein no part of the etching control layer exists between the second region of the substrate and the second semiconductor laser structure.